

REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 1-40 remain in the application. Claims 2-4, 7-13, 15-23, 26-31, 33, and 36-40 have been amended. No claims have been cancelled.

Objections to the drawings

Figures 1 and 2 have been amended as per the Examiner's proposed drawing correction. No new matter has been added.

Rejection under 35 USC § 112, second paragraph

Applicants respectfully submit that claim 21, as amended, satisfies the requirement of 35 USC §112, second paragraph and respectfully request the rejection to claim 21 be withdrawn under 35 USC §112.

Rejection under 35 USC § 102(e)

Claims 1, 4-6 and 9-10 are rejected under 35 USC § 102(e) as being anticipated by Hindus et al., US Patent No. 6,282,206, ("Hindus"). Applicants do not admit that Hindus is prior art and reserve the right to swear behind the reference at a later date. Nonetheless, Applicants believe that the present invention is distinguishable over Hindus because Hindus does not disclose each and every element of the invention as claimed in claim 1.

Hindus teaches a variable bandwidth communications system that includes a first communication station and a second communication station coupled to the first communication station for continuous, by directional communication (Abstract). The high bandwidth input type can be converted to a low bandwidth output signal, which provides haptic feedback to a receiver at a second communication station 14. For example, a receiver of the low bandwidth haptic signal may grasp a forced-feedback device, such as a joystick, at his communication station and receive haptic feedback, which is related to the high bandwidth audio generated at another

communication station. As a more specific example, low frequencies of the high bandwidth audio as generated at a first communication station 12 can be converted into a rumbling feeling at a force feedback joystick at a second communication station that is remotely located with respect to the first communication station (Column 11 lines 6-18).

However, Hindus does not teach “an apparatus comprising: a haptel wherein a signal is generated in response to subjecting said haptel to a stimulus,” as claimed in claim 1. The Office Action cites a portion of Hindus that teaches the use of a forced-feedback joystick (see Column 11 lines 6-17). This is not the same as a haptel as claimed. A haptel refers to a single haptic element, which, for example, may be used to allow a user to provide a virtual sensation (e.g., a simulated touch) to a remote person. Hindus does not teach the use of a haptel as claimed.

Accordingly, the Applicants respectfully submit that Hindus does not teach each and every element as claimed in claim 1. Therefore, claim 1 is not anticipated by Hindus under 35 USC § 102(e) and the Applicants respectfully request the rejection to claim 1 be withdrawn and that the rejection to those claims dependent thereon be withdrawn as well. Claim 6 includes features similar to those discussed above including a haptel, which is not disclosed in Hindus. Accordingly, the Applicants respectfully submit that Hindus does not teach each and every element as claimed in claim 6. Therefore, the Applicants respectfully request the rejection to claim 6 be withdrawn and that the rejection to those claims dependent thereon be withdrawn as well.

Claims 11, 13, 16, and 19 were rejected under 35 USC 102(e) as being anticipated by MacLean et al., US Patent No. 6,529,183, (“MacLean”). Applicants do not admit that MacLean is prior art and reserve the right to swear behind the reference at a later date. Nonetheless, Applicants believe that the present invention is distinguishable over MacLean because MacLean does not disclose each and every element of the invention as claimed in claim 11.

MacLean discloses a manual interface that combines continuous and discrete control and display capabilities (see Abstract). The haptic interface device 302 can be used to enable the user 305 to effect a particular interaction with the environment 306 and/or can provide a haptic sensation to the user 305 in accordance with the interaction with the environment 306 (see Column 6 lines 11-17).

However, MacLean does not disclose “an apparatus comprising: a haptel, wherein said haptel is responsive to haptic data, such that the haptic data is rendered on said haptel,” as claimed in claim 11. Rather, MacLean teaches the use of haptic interface devices such as joysticks, keyboards, and mice (see Column 1, lines 28-30). However, MacLean does not teach the use of a haptel, as claimed. A haptel refers to a single haptic element, which, for example, may be used to allow a user to provide a virtual sensation (e.g., a simulated touch) to a remote person. MacLean does not teach the use of a haptel as claimed.

Furthermore, MacLean does not teach that the haptel is responsive to haptic data as claimed. The haptic data may, for example, define the virtual sensation to be rendered and include such data as coordinates that define a spatial position, velocity, temperature, force, and pressure. MacLean does not disclose the use of haptic data.

Accordingly, the Applicants respectfully submit that MacLean does not teach each and every element as claimed in claim 11. Therefore, claim 11 is not anticipated by MacLean under 35 USC § 102(e) and the Applicants respectfully request the rejection to claim 11 be withdrawn and that the rejection to those claims dependent thereon be withdrawn as well. Claim 16 includes features similar to those discussed above, including a haptel and haptic data, which is not disclosed in MacLean. Accordingly, the Applicants respectfully submit that MacLean does not teach each and every element as claimed in claim 16. Therefore, the Applicants respectfully

request the rejection to claim 16 be withdrawn and that the rejection to those claims dependent thereon be withdrawn as well.

Rejections under 35 USC § 103(a)

Claims 2 and 7 were rejected under 35 USC § 103(a) as being unpatentable over Hindus in view of Fish, US Patent No. 6,337,678, (“Fish”). As articulated above, claims 2 and 7 are patentable over Hindus. Fish fails to cure the underlying deficiencies of Hindus, including the failure to teach, “a haptel wherein a signal is generated in response to subjecting said haptel to a stimulus,” as discussed above. Hence, claims 2 and 7 are patentable over this combination of references.

Claims 3 and 8 were rejected under 35 USC § 103(a) as being unpatentable over Hindus in view of Shaw et al., US Patent No. 6,525,711 (“Shaw”). As articulated above, claims 3 and 8 are patentable over Hindus. Shaw fails to cure the underlying deficiencies of Hindus, including the failure to teach, “a haptel wherein a signal is generated in response to subjecting said haptel to a stimulus,” as discussed above. Hence, claims 3 and 8 are patentable over this combination of references.

Claims 12 and 17 were rejected under 35 USC § 103(a) as being unpatentable over MacLean in view of Fish. As articulated above, claims 12 and 17 are patentable over MacLean. Fish fails to cure the underlying deficiencies of MacLean, including the failure to teach “a haptel, wherein said haptel is responsive to haptic data, such that the haptic data is rendered on said haptel,” as discussed above. Hence, claims 12 and 17 are patentable over this combination of references.

Claims 15 and 18 were rejected under 35 USC § 103(a) as being unpatentable over MacLean in view of Shaw. As articulated above, claims 15 and 18 are patentable over MacLean. Shaw fails to cure the underlying deficiencies of MacLean, including the failure to teach “a

haptel, wherein said haptel is responsive to haptic data, such that the haptic data is rendered on said haptel,” as discussed above. Hence, claims 15 and 18 are patentable over this combination of references.

Claims 14 and 20 were rejected under 35 USC § 103(a) as being unpatentable over MacLean in view of Hindus. As articulated above, claims 14 and 20 are patentable over MacLean. Hindus fails to cure the underlying deficiencies of MacLean, including the failure to teach “a haptel, wherein said haptel is responsive to haptic data, such that the haptic data is rendered on said haptel,” as discussed above. Hence, claims 14 and 20 are patentable over this combination of references.

Claims 21, 24-26, 29-31, 34-36, and 39-40 were rejected under 35 § USC 103(a) as being unpatentable over Hindus in view of MacLean.

Hindus teaches a variable bandwidth communications system that includes a first communication station and a second communication station coupled to the first communication station for continuous, by directional communication (Abstract). The high bandwidth input type can be converted to a low bandwidth output signal, which provides haptic feedback to a receiver at a second communication station 14. For example, a receiver of the low bandwidth haptic signal may grasp a forced-feedback device, such as a joystick, at his communication station and receive haptic feedback, which is related to the high bandwidth audio generated at another communication station. As a more specific example, low frequencies of the high bandwidth audio, as generated at a first communication station 12, can be converted into a rumbling feeling at a forced-feedback joystick at a second communication station that is remotely located with respect to the first communication station (Column 11 lines 6-18).

MacLean discloses a manual interface that combines continuous and discrete control and display capabilities (see Abstract). The haptic interface device 302 can be used to enable the

user 305 to effect a particular interaction with the environment 306 and/or can provide a haptic sensation to the user 305 in accordance with the interaction with the environment 306 (see Column 6 lines 11-17).

However, Hindus in view of MacLean does not teach or suggest “a first haptel to generate a single in response to a stimulus,” as claimed in claim 21. The Office Action cites a portion of Hindus that teaches the use of a forced-feedback joystick (see Column 11 lines 6-17) and MacLean teaches the user of haptic interface devices such as joysticks, keyboards, and mice (see Column 1, lines 28-30). This is not the same as a haptel as claimed. A haptel refers to a single haptic element, which, for example, may be used to allow a user to provide a virtual sensation (e.g., a simulated touch) to a remote person. Hindus in view of MacLean does not teach or suggest the use of a haptel as claimed.

Furthermore, the combination of references also does not teach or suggest “a second haptel to reproduce the stimulus responsive to the signal,” as claimed. For example, the same sensation of a finger moving across the first haptel will be reproduced on the second haptel. The reproduced stimulus to generate the sensation may include the reproduced temperature of the finger, the velocity of movement, and the amount of force being applied, among other sensations. Hindus in view of MacLean does not teach or suggest “a second haptel to reproduce the stimulus responsive to the signal.”

Accordingly, the Applicants respectfully submit that Hindus in view of MacLean does not teach each and every element as claimed in claim 21. Therefore, claim 21 is not is not rendered obvious by Hindus in view of MacLean under 35 USC § 103(a), and the Applicants respectfully request the rejection to claim 21 be withdrawn and that the rejection to those claims dependent thereon be withdrawn as well. Claims 26, 31, and 36 include features similar to those discussed above including a haptel, which is disclosed in neither Hindus nor MacLean.

Accordingly, the Applicants respectfully submit that the combination of references does not teach each and every element as claimed in claims 26, 31, and 36. Therefore, the Applicants respectfully request the rejection to claims 26, 31, and 36 be withdrawn and that the rejection to those claims dependent thereon be withdrawn as well.

CONCLUSION

Applicants respectfully submit that the rejections have been overcome by the amendments and remarks, and that the claims as amended are now in condition for allowance. Accordingly, Applicants respectfully request the rejections be withdrawn and the claims as amended be allowed.

Invitation for a telephone interview

The Examiner is invited to call the undersigned at 408-720-8300 if there remains any issue with allowance of this case.

Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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